

INFO405 INDIVIDUAL ASSIGNMENT

- i) You are employed as a Network Administrator and you been tasked to design a WAN network diagram for Telecel Zimbabwe with 3 branches located in Gweru, Kwekwe and Masvingo with a minimum of 4 client help desk, a manager, a server and two clients telephone handset lines in each branch. Illustrate your design especially showing the network topology, appropriate connecting devices and switching mechanism employed.
(20MARKS)
- ii) Identify and explain any five (5) types of virtualization in cloud computing. (10MARKS)
- iii) If a periodic signal is decomposed into five sine waves with frequencies of **1000, 3000, 5000, 7000, and 9000Hz**, what is its bandwidth? Draw the spectrum, assuming all components have maximum amplitude of **20V**. (5 MARKS)
- iv) We have an available bandwidth of **100 kHz** which spans from **2000** to **3000** kHz. If a full-duplex link is implemented in **Amplitude Shift Keying** modulation (ASK), show by means of a diagram, the resulting carrier frequencies and bandwidths. What is the data rate in each direction? (5MARKS)